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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* GAKU HARADA, TOSHIHIKO NISHIYAMA, MASAKI  
FUJIWARA, SHINAKO OKADA and MASATO KUROSAKI

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Appeal 2009-005109  
Application 10/716,672  
Technology Center 1700

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Decided: March 22, 2010

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Before JEFFREY T. SMITH, BEVERLY A. FRANKLIN, and  
LINDA M. GAUDETTE, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

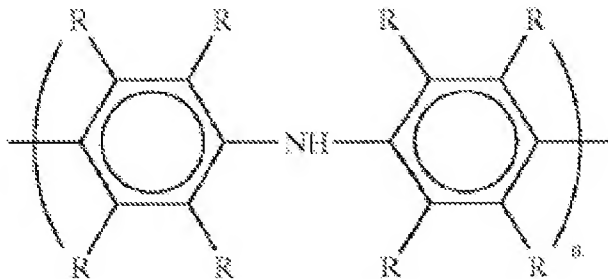
DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's  
rejection of claims 1 and 4-18. We have jurisdiction under 35 U.S.C. § 6(b).

## STATEMENT OF THE CASE

Claim 1 is representative of the subject matter on appeal and is set forth below:

1. A conductive polymer comprising a polybiphenylaniline, wherein said polybiphenylaniline is represented by the following general formula:



where R is any one of hydrogen atom, halogen atom, hydroxyl groups, carboxyl groups, sulfonic groups, sulfuric groups, nitro groups, cyano groups, alkyl groups, aryl groups, alkoxy groups, aryloxy groups, amino groups, alkylthio groups, arylthio groups, and heterocyclic groups, provided that individuals of R are not limited to be the same, and

said polybiphenylaniline is doped with dopant comprising at least an acid having a single site of a group which dissociates a proton.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hirai <sup>1</sup>	JP 61-206170	Sep. 12, 1986
Kobayashi	4,740,436	Apr. 26, 1988
Pienimaa	6,110,563	Aug. 29, 2000
Kathirgamanathan	4,992,559	Feb. 12, 1991

## THE REJECTION(S)

1. Claims 1, 4-6, 11-15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hirai.

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<sup>1</sup> See footnote 2, *infra*.

2. Claims 1, 4-6, 11-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi.
3. Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirai as applied to claims 1,4-6,11-15 and, further in view of Pienimaa.
4. Claims 9, 10, 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirai as applied to claims 1,4-6,11-15 and, further in view of Kathirgamanathan.
5. Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi as applied to claims 1,4-6,11-15 and, further in view of Pienimaa.
6. Claims 9, 10, 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi as applied to claims 1,4-6,11-15 and, further in view of Kathirgamanathan.

#### ISSUE(S)

Rejections 1, 3, and 4 (the rejections involving Hirai)

Did the Examiner err in determining that the English Abstract and page 353 of the corresponding foreign document teaches the aspect of the claims directed to the dopant feature?

We answer this question in the affirmative.

Rejections 2, 5, and 6

Did the Examiner err in determining that Kobayashi suggests the claimed polybiphenylaniline and that the data in the Specification is unconvincing?

We answer this question in the negative.

#### FINDINGS OF FACT

The English Abstract does not teach the dopant feature, and the Examiner does not explain how page 353 of the foreign document teaches this feature. See Answer generally.

Kobayashi lists diphenylamine as a "typical examples" of a monomer of the patentee's invention. Kobayashi, col. 2, ll. 55-60.

Kobayashi teaches that the polymers of the invention should be complexed (doped) with a protonic acid. Preferred anions of the protonic acid used for the complexing are  $\text{Cl}^-$ ,  $\text{BF}_4^-$  and  $\text{ClO}_4^-$ . Kobayashi, col. 6, ll. 52-62.

The Examiner finds that Kobayashi teaches formula (1) in column 2 which discloses a phenyl group, and "Y" also represents a phenyl group, and that Kobayashi (col. 2, ll. 50-55) teaches that a polymerization of formula (1) is obtained. The Examiner states that, as a result, a polybiphenylaniline is formed (Ans. 10), and Appellants do not address this explanation made by the Examiner of how a polybiphenylaniline is formed. See Brief generally.

The comparisons of Appellants' inventive examples in Appellants' Specification are not made with the closest prior art of Kobayashi. Br. 11.

## PRINCIPLES OF LAW

When considering whether proffered evidence demonstrates patentability, a side-by-side comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims is needed, with an explanation as to why the results would have been unexpected by one of ordinary skill in the art. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980); *In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972).

“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

## ANALYSIS

Rejections 1, 3, and 4 (the rejections involving Hirai)

On page 6 of the Brief, Appellants correctly note that the Examiner relies upon the English Abstract of Hirai in rejecting the claims. The Examiner also refers to page 353 of the corresponding foreign document for teaching the aspect of the claims regarding a dopant feature.

As pointed out by Appellants on page 7 of the Brief, the English Abstract does not teach the dopant feature, and the Examiner does not explain how the foreign document teaches this feature. Because the Examiner relied upon the English Abstract and foreign document in making his rejection<sup>2</sup>, and because these sources do not teach

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<sup>2</sup> The Examiner, for the first time, refers to an English translation of Hirai, on page 8 of the Answer (the English translation was placed in the record on

an element of the claims regarding a dopant feature, we reverse the rejections involving Hirai. *In re Schreiber*, 128 F.3d at 1477.

## Rejection 2

The Examiner finds that Kobayashi discloses a non-aqueous secondary battery comprising a polymer of an aniline derivative as a positive electrode. The Examiner refers to formula (1) in column 2 of Kobayashi from which the polymer is formed. The Examiner finds that Kobayashi lists diphenylamine as a "typical example" of a monomer of the patentee's invention (col. 2, ll. 55-60), and teaches both homopolymers and copolymers are encompassed by the disclosure. Ans. 5.

The Examiner concludes that one of ordinary skill in the art would recognize poly(diphenylamine) as one of a relatively small number of polymers intended to be encompassed by the Kobayashi invention.

The Examiner also finds that Kobayashi suggests that the polymers of the invention should be complexed (doped) with a protonic acid. Preferred anions of the protonic acid used for the complexing are  $\text{Cl}^-$ ,  $\text{BF}_4^-$  and  $\text{ClO}_4^-$ . Kobayashi, col. 6, ll. 52-62. The Examiner concludes that Kobayashi teaches doping or complexing polybiphenylamine. Ans. 5.

Appellants assert that Kobayashi discloses diphenylamine, but not polybiphenylaniline. Br. 9-11.

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July 9, 2008 (the date the Answer was mailed)) in an effort to correct this deficiency of the English Abstract and the foreign document). However, this effort is untimely, and we do not use the English translation in this decision. Rather, we use the English Abstract.

In response, the Examiner explains that Kobayashi not only discloses polyaniline, but also polybiphenylaniline. The Examiner states that, as disclosed in Kobayashi, in column 2, formula (1) discloses a phenyl group and "Y" also represents a phenyl group, and that Kobayashi (col. 2, ll. 50-55) teaches that a polymerization of formula (1) is obtained. Ans. 10. The Examiner states that as a result, a polybiphenylaniline is formed. Notably, Appellants do not address this explanation by the Examiner of how a polybiphenylaniline is formed. In this light, we agree with the Examiner's position regarding the prima facie case.

Appellants then argue that Example 1 of Figure 2 of their Specification achieves a voltage-discharge capacity substantially greater than Kobayashi's polyaniline (Appellants assert Comparative Example 1 of Figure 3 represents Kobayashi). Br. 11. Appellants also argue that Figure 4 demonstrates that the capacity-discharge current of the claimed invention is superior. Appellants also state that the ratio of capacity to initial capacity decreases more significantly with the number of cycles for Kobayashi's polyaniline, compared to the claimed invention, as shown in Figure 5.

We are not convinced by the above-mentioned data set forth in Appellants' Specification. The comparisons of the inventive examples are not made with the closest prior art of Kobayashi. For example, Comparative Example 1 involves "polyaniline" as the active material. Kobayashi teaches compounds more specific and closer to the claimed invention than a "polyaniline". *In re Baxter Travenol Labs.*, 952 F.2d at 392; *In re De Blauwe*, 736 F.2d at 705; *In re Grasselli*, 713 F.2d at 743; *In re Clemens*,

622 F.2d at 1035; *In re Freeman*, 474 F.2d at 1324; *In re Klosak*, 455 F.2d at 1080.

Rejections 5 and 6

Appellants argue, for each of these rejections, that the secondary references do not cure the alleged deficiencies of Kobayashi. Hence, for the same reason that we affirmed the obviousness rejection over Kobayashi, we affirm these rejections also.

### CONCLUSIONS OF LAW

Rejections 1, 3, and 4 (the rejections involving Hirai)

The Examiner erred in determining that the English Abstract and page 353 of the corresponding foreign document teaches the aspect of the claims directed to the dopant feature.

Rejections 2, 5, and 6

The Examiner did not err in determining that Kobayashi suggests the claimed polybiphenylaniline and that the data in the Specification is unconvincing.

### DECISION

1. The rejection of claims 1, 4-6, 11-15 under 35 U.S.C. § 102(b) as being anticipated by Hirai is reversed.
2. The rejection of claims 1, 4-6, 11-15 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi is affirmed.

3. The rejection of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Hirai as applied to claims 1, 4-6, 11-15 and, further in view of Pienimaa is reversed.
4. The rejection of claims 9, 10, 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Hirai as applied to claims 1, 4-6, 11-15 and, further in view of Kathirgamanathan is reversed.
5. The rejection of Claims 7, 8 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi as applied to claims 1, 4-6, 11-15 and, further in view of Pienimaa is affirmed.
6. The rejection of claims 9, 10, 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi as applied to claims 1, 4-6, 11-15 and, further in view of Kathirgamanathan is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

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